

AMENDMENTS TO THE CLAIMS:

A listing of the claims is provided. This listing of claims replaces all prior versions and listings of claims. Claims 2, 6 and 8 are currently amended. Claims 18-24 are added herein.

Listing of Claims: 1. (Original) A method for amplifying nucleic acid, comprising:

introducing a nucleic acid molecule into a plant cell, wherein the nucleic acid molecule includes a sequence of nucleotides that targets the nucleic acid molecule to an amplifiable region of a chromosome in the plant cell;

growing the plant cell; and

identifying from among the resulting plant cells those that include a chromosome with a portion that has undergone amplification.

2. (Currently Amended) The method of claim 1, wherein the targeting sequence of nucleotide nucleotides is selected from among those that target the molecule to the pericentric heterochromatic region of a chromosome.

3. (Original) The method of claim 1, wherein the targeting sequence comprises rDNA.

4. (Original) The method of claim 1, wherein the targeting sequence comprises an origin of replication or an amplification promoting sequence (APS).

5. (Original) The method of claim 1, wherein the plant is tobacco, rice, maize, rye, soybean, wheat, *Brassica napus*, cotton, lettuce, potato, tomato, petunia or arabidopsis.

6. (Currently Amended) The method of claim 1, wherein the amplified nucleic acid region includes amplified endogenous chromosomal nucleic acid.

7. (Original) The method of claim 1, wherein the nucleic acid molecule encodes one or more genes.

8. (Currently Amended) The method of claim 1, wherein the nucleic acid molecules molecule encodes products that confer disease resistance to a plant.

9. (Original) A method for amplifying a nucleic acid, comprising:
introducing a nucleic acid fragment comprising sequences of nucleotides targeted to an amplifiable region of a chromosome into a plant cell under conditions whereby the fragment integrates into the chromosome.
10. (Original) The method of claim 9, further comprising replicating the plant cell.
11. (Original) The method of claim 9, wherein the targeting sequences of nucleotides are selected from among those that target the molecule to the pericentric heterochromatic region of a chromosome.
12. (Original) The method of claim 9, wherein the targeting sequences comprise rDNA.
13. (Original) The method of claim 9, wherein the targeting sequences comprise an origin of replication or an amplification promoting sequence (APS).
14. (Original) The method of claim 9, wherein the plant is tobacco, rice, maize, rye, soybean, wheat, *Brassica napus*, cotton, lettuce, potato, tomato, petunia or arabidopsis.
15. (Original) A method for amplifying a nucleic acid, comprising:
introducing a nucleic acid fragment that comprises rDNA into a plant cell under conditions that produce plant cells that have incorporated the DNA fragment or a portion thereof that comprises the rDNA into a chromosome of the plant cell, whereby the nucleic acid fragment is amplified.
16. (Original) The method of claim 15, further comprising replicating the plant cell.
17. (Original) The method of claim 15, wherein the plant is tobacco, rice, maize, rye, soybean, wheat, *Brassica napus*, cotton, lettuce, potato, tomato, petunia or arabidopsis.
18. (New) The method of claim 1, wherein the plant cell is a protoplast.
19. (New) The method of claim 1, wherein the portion that has undergone amplification comprises the introduced nucleic acid molecule or a portion thereof.

20. (New) The method of claim 1, wherein the portion that has undergone amplification comprises centromeric nucleic acid.

21. (New) The method of claim 1, wherein the portion that has undergone amplification comprises pericentric heterochromatin.

22. (New) The method of claim 1, wherein the nucleic acid molecule that is introduced comprises heterologous nucleic acid.

23. (New) The method of claim 1, wherein the nucleic acid molecule that is introduced comprises a selectable marker.

24. (New) The method of claim 22, wherein the portion that has undergone amplification comprises the heterologous nucleic acid.